

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF SOUTH CAROLINA**

IN RE: AQUEOUS FILM-FORMING FOAMS PRODUCTS
LIABILITY LITIGATION

MDL No.
2:18-mn-2873-RMG

ANNETTE GASSER,
STACEY HLADEK,
JERI KEITH, as the Parent and Natural Guardian of B.K.,
DALENIA MONTGOMERY,
DIANA SANCHEZ,
VALERIE TREADWELL,
and, W.H.WRIGHT,

COMPLAINT

Jury Trial Demanded

Plaintiffs,

-VS -

THE 3M COMPANY, f/k/a Minnesota Mining and
Manufacturing Co.,
AGC CHEMICALS AMERICAS INC.,
AMEREX CORPORATION,
ARKEMA INC.,
ARCHROMA U.S. INC.,
BUCKEYE FIRE EQUIPMENT COMPANY,
CHEMDESIGN PRODUCTS INC.,
CHEMGUARD INC.,
CHEMICALS, INC.,
CLARIANT CORPORATION, individually and as successor
in interest to Sandoz Chemical Corporation,
CORTEVA, INC., individually and as successor in interest to
DuPont Chemical Solutions Enterprise,
DEEPWATER CHEMICALS, INC.,
DUPONT DE NEMOURS INC., individually and as
successor in interest to DuPont Chemical Solutions
Enterprise,
DYNAX CORPORATION,
E. I. DUPONT DE NEMOURS AND COMPANY,
individually and as successor in interest to DuPont Chemical
Solutions Enterprise,
NATION FORD CHEMICAL COMPANY,

THE CHEMOURS COMPANY, individually and as)
 successor in interest to DuPont Chemical Solutions)
 Enterprise,)
 THE CHEMOURS COMPANY FC, LLC, individually and)
 as successor in interest to DuPont Chemical Solutions)
 Enterprise,)
 TYCO FIRE PRODUCTS, LP, individually and as successor)
 in interest to The Ansul Company,)
 and JOHN DOE DEFENDANTS 1-20,)
)
Defendants.)

COMPLAINT AND DEMAND FOR JURY TRIAL

Plaintiffs ANNETTE GASSER, STACEY HLADEK, JERI KEITH, as the Parent and Natural Guardian of B.K, DALENIA MONTGOMERY, DIANA SANCHEZ, VALERIE TREADWELL; *and* W.H.WRIGHT (collectively, “Plaintiffs”), by and through their undersigned counsel, hereby file this Complaint against Defendants, 3M COMPANY, f/k/a Minnesota Mining and Manufacturing Co., AGC CHEMICALS AMERICAS INC., AMEREX CORPORATION, ARKEMA INC., ARCHROMA U.S. INC., BUCKEYE FIRE EQUIPMENT COMPANY, CHEMDESIGN PRODUCTS INC., CHEMGUARD INC., CHEMICALS, INC., CLARIANT CORPORATION, CORTEVA, INC., DEEPWATER CHEMICALS, INC., DUPONT DE NEMOURS INC., DYNAX CORPORATION, E. I. DUPONT DE NEMOURS AND COMPANY, NATION FORD CHEMICAL COMPANY, THE CHEMOURS COMPANY, THE CHEMOURS COMPANY FC, LLC, and TYCO FIRE PRODUCTS, LP, and DOE DEFENDANTS 1-20, fictitious names whose present identifies are unknown (collectively “Defendants”) and alleges, upon information and belief, as follows:

INTRODUCTION

1. This action arises from the foreseeable contamination of groundwater by the use of aqueous film-forming foam (“AFFF”) products that contained per- and poly-fluoroalkyl

substances (“PFAS”), including perfluorooctane sulfonate (“PFOS”) and perfluorooctanoic acid (“PFOA”).

2. PFOS and PFOA are fluorosurfactants that repel oil, grease, and water. PFOS, PFOA, and/or their chemical precursors, are or were components of AFFF products, which are firefighting suppressant agents used in training and firefighting activities for fighting Class B fires. Class B fires include fires involving hydrocarbon fuels such as petroleum or other flammable liquids.

3. PFOS and PFOA are mobile, persist indefinitely in the environment, bioaccumulate in individual organisms and humans, and biomagnify up the food chain. PFOS and PFOA are also associated with multiple and significant adverse health effects in humans, including but not limited to kidney cancer, testicular cancer, high cholesterol, thyroid disease, ulcerative colitis, and pregnancy-induced hypertension.

4. At various times from the 1960s through today, Defendants designed, manufactured, marketed, distributed, and/or sold AFFF products containing PFOS, PFOA, and/or their chemical precursors, and/or designed, manufactured, marketed, distributed, and/or sold the fluorosurfactants and/or perfluorinated chemicals (“PFCs”) contained in AFFF (collectively, “AFFF/Component Products”).

5. Defendants designed, manufactured, marketed, distributed, and/or sold AFFF/Component Products despite knowing that PFAS are toxic persist indefinitely, and would be routinely released into the environment during fire protection, training, and response activities, even when used as directed and intended by Defendants.

6. Since its creation in the 1960s, AFFF designed, manufactured, marketed, distributed, and/or sold by Defendants, and/or that contained fluorosurfactants and/or PFCs

designed, manufactured, marketed, distributed, and/or sold by Defendants, used as directed and intended by Defendants, and subsequently released into the environment during fire protection, training, and response activities, resulting in widespread PFAS contamination.

7. The communities of Fountain, Security, Widefield, parts of Colorado Springs (collectively the “Communities”) are all located in El Paso County, Colorado.

8. The Communities are located in close proximity to and downgradient of Peterson Air Force Base and the Colorado Springs Municipal Airport, which share one property.

9. The United States Air Force (“USAF”) provided firefighting services to the Colorado Springs Municipal Airport, owned by the City of Colorado Springs through a joint use agreement.

10. For purposes of this Complaint, the property of Peterson Air Force Base shall include the property of the Colorado Springs Municipal Airport and shall collectively be referred to as “PAFB.”

11. Residents of the Communities receive their potable water either from private wells or from their municipal water provider.

12. The Communities receive municipal drinking water from the City of Fountain Utilities Department, the Security Water and Sanitation District, and the Widefield Water and Sanitation District.

13. The Security Water and Sanitation District provides drinking water to approximately 19,000 residential and business customers.

14. The City of Fountain Utilities Department provides drinking water to approximately 29,000 residential and business customers.

15. The Widefield Water and Sanitation District provides drinking water to approximately 16,000 residential and business customers.

16. On May 2, 2012, the United States Environmental Protection Agency (“USEPA”) published its Third Unregulated Contaminant Monitoring Rule (“UCMR3”), requiring public water systems nationwide to monitor for thirty (30) contaminants of concern between 2013 and 2015.

17. As part of the UCMR3, public water systems are required to sample six PFCs, including PFOA and PFOS.

18. In October 2015, the USEPA released results from UCMR3 that indicated the Communities’ water supplies were contaminated with PFOA and PFOS.

19. Prior to the disclosure of the UCMR3 data, there was no notification to the residents of the Communities that the water was contaminated with PFOA and PFOS.

20. In May 2016, the USEPA established a drinking water health advisory level for PFOA and PFOS and warned that lifetime exposure to PFOA and PFOS over 70 parts per trillion (“ppt”) was linked to the development of numerous serious medical conditions.

21. In response to the USEPA’s establishment of the 70 ppt health advisory level, the Communities’ municipal water providers notified the residents in the Communities of the contamination and took action to reduce the PFOA and PFOS levels in the drinking water, including shutting down wells, obtaining and/or purchasing alternative sources of water, and blending clean water with the contaminated water to lower the PFC level in their customers’ water.

22. It was in this same month that Plaintiffs were first made aware that their drinking water was contaminated with PFCs at hazardous levels and were advised to seek alternate drinking water supplies.

23. Among the 63 areas nationwide where the USEPA found PFOA and PFOS exceeding the 70 ppt limit, federal data shows that the Communities exhibit some of the highest levels of contamination.¹

24. By this time, local newspapers were reporting that federal data showed that the water in all 32 of the Security Water and Sanitation District's municipal wells exhibited PFC contamination at levels exceeding the EPA health advisory limit of 70 ppt. At one well, PFC concentration reached 1,370 ppt, nearly 20 times in excess of the EPA health advisory.²

25. EPA officials recommended that pregnant women and small children should not drink local water serving the Communities.³

26. Subsequent investigations into the contamination were carried out by the United States Army Corps of Engineers on behalf of the USAF and the Colorado Department of Public Health & Environment ("CDPHE") and have uncovered widespread PFC contamination of the groundwater resources for the Communities.⁴

27. These investigations also concluded that the basis for this widespread contamination of the Communities' groundwater is decades of use, storage, and disposal of AFFF at PAFB that contained PFOA and PFOS.

¹ Bruce Finley, *Drinking water in three Colorado cities contaminated with toxic chemicals above EPA limits*, Denver Post, (June 15, 2016 4:08 PM), <http://www.denverpost.com/2016/06/15/colorado-widefield-fountain-security-water-chemicals-toxic-epa/>.

² *Id.*

³ *Id.*

⁴ Revised Final Preliminary Assessment Report for Perfluorinated Compounds at Peterson Air Force Base El Paso County, Colorado, U.S. Army Corps of Engineers (November 2016), http://www.peterson.af.mil/Portals/15/documents/Public%20Notices/552503_Revised%20Final%20Peterson%20AFB%20PA_11_2016.pdf?ver=2017-05-16-162140-693.

28. The CDPHE horizontally delineated the PFC plumes, designating these plumes as “Areas of Investigation” (“CDPHE Areas of Investigation”).

29. Defendants manufactured and distributed AFFF products containing PFOS, PFOA, and/or their chemical precursors, and/or designed, manufactured, marketed, distributed, and/or sold the PFCs contained in AFFF to PAFB, knowing that AFFF/Component Products containing PFOA and/or PFOS presented an unreasonable risk to human health and the environment and was inherently dangerous.

30. The Defendants also knew that both PFOA and PFOS were highly soluble and mobile in water, highly likely to contaminate water supplies, highly persistent in the environment, and known to bio-accumulate in humans and contribute to the development of numerous serious health conditions, especially for sensitive receptors such as young children and pregnant and nursing women.

31. The Defendants marketed and sold their products with knowledge that the USAF and PAFB would use large quantities of AFFF containing PFOA and PFOS in training operations and in emergency fire-fighting situations in such a manner that PFOA and PFOS would contaminate the air, soil, and groundwater.

32. The Defendants marketed and sold their products with knowledge that large quantities of AFFF containing PFOA and PFOS would be stored in fire suppressant systems and tanks on USAF Bases and at airports, including PAFB, and that such systems and storage were used and maintained in such a manner that dangerous chemicals would be released into the air, soil, and groundwater.

33. The Defendants failed in their duty to manufacture a product that would not cause widespread harm and in their duty to warn the United States Department of Defense (“DOD”), the

USAF, PAFB, the municipal water providers, and the residents in the surrounding Communities of the inherently dangerous properties of their AFFF/Component Products.

34. There are over 64,000 residents of the Communities who were exposed to PFOA and PFOS contaminated drinking water from the City of Fountain, the Security Water and Sanitation District, the Widefield Water and Sanitation District, and private wells, all of which obtain groundwater from the CDPHE Areas of Investigation.

35. The Plaintiffs in this complaint are all residents of the cities of Security, Widefield, and of Colorado Springs, Colorado who, upon information and belief, were so exposed and/or own properties that were so exposed.

JURISDICTION AND VENUE

36. Pursuant to this Court's Case Management Order No. 3, this Complaint is filed as an original action in the United States District Court for the District of South Carolina.

37. This Court has subject matter jurisdiction over the Defendants pursuant to 28 U.S.C. §1332(a), in that this action seeks monetary relief in excess of the sum or value of \$ 75,000, exclusive of interest, and there is complete diversity between the parties. *See Johnson v. Rodrigues*, 226 F.3d 1103, 1107 (10th Cir. 2000). The value of the case exceeds the jurisdictional threshold value of \$75,000.00, exclusive of all interest and costs, taking into account the nature and extent of the injuries and damages sustained by each individual Plaintiff, and the reasonable economic and non-economic injuries and damages sustained by each individual Plaintiff.

38. Pursuant to 28 U.S.C. § 1391, Plaintiff's Home Venue is the United States District Court for the District of Colorado.

39. This Court has personal jurisdiction over Defendants by virtue of each Defendants' regular and systematic contacts with Colorado, including, among other things, purposefully marketing, selling and/or distributing their AFFF/Component Products to and within Colorado,

and because they have the requisite minimum contacts with Colorado necessary to constitutionally permit the Court to exercise jurisdiction over them consistent with traditional notions of fair play and substantial justice.

PARTIES

A. Plaintiffs

40. Plaintiff Annette Gasser currently resides at 1278 Ethereal Cir, Colorado Springs CO 80904. Plaintiff Annette Gasser lived at 2955 Rhapsody Drive, Colorado Springs CO 80919; 880 Popes Valley Drive, Colorado Springs CO 80919; 10042 Rolling Ridge Road, Colorado Springs CO 80925; 5855 Via Verona View, Colorado Springs CO 80919; and 1278 Ethereal Cir, Colorado Springs CO 80904 at all times relevant herein. As a result of Annette Gasser's exposure to elevated levels of PFOA, PFOS, and PFCs in the drinking water supply Annette Gasser has elevated levels of PFOA, PFOS, and PFCs in her blood, and has been diagnosed with Thyroid Disease and Kidney Cancer.

41. Plaintiff Stacey Hladek currently resides at 6719 Black Saddle Dr, Colorado Springs CO 80924. Plaintiff Stacey Hladek lived at 2795 Reeve Cir, Colorado Springs CO 80906; Fort Carson, Colorado Springs CO 80911; and 6719 Black Saddle Dr, Colorado Springs CO 80924 at all times relevant herein. As a result of Stacey Hladek's exposure to elevated levels of PFOA, PFOS, and PFCs in the drinking water supply, Stacey Hladek has elevated levels of PFOA, PFOS, and PFCs in her blood, and has been diagnosed with Ulcerative Colitis.

42. Plaintiff Jeri Keith, as the Parent and Natural Guardian of B.K., currently resides at 3820 E Cresta Loma Cir, Colorado Springs CO 80911. Plaintiff Jeri Keith, as the Parent and Natural Guardian of B.K, lived at 3820 E Cresta Loma Cir, Colorado Springs CO 80911 at all times relevant herein. As a result of B.K.'s exposure to elevated levels of PFOA, PFOS, and PFCs

in the drinking water supply, B.K. has elevated levels of PFOA, PFOS, and PFCs in his blood, and has been diagnosed with Thyroid Cancer.

43. Plaintiff Dalenia Montgomery currently resides at 4363 Excursion Dr, Colorado Springs CO 80911. Plaintiff Dalenia Montgomery lived at 232 Quebec Street, Colorado Springs CO 8091; 4363 Excursion Dr, Colorado Springs CO 80911 and at all times relevant herein. As a result of Dalenia Montgomery's exposure to elevated levels of PFOA, PFOS, and PFCs in the drinking water supply, Dalenia Montgomery has elevated levels of PFOA, PFOS, and PFCs in her blood, and has been diagnosed with Hashimotos Disease.

44. Plaintiff Diana Sanchez currently resides at 6758 Fielding Cir, Colorado Springs CO 80911. Plaintiff Diana Sanchez lived at 1045 Norwood Ave, Colorado Springs CO 80905; and 6758 Fielding Cir, Colorado Springs CO 80911 at all times relevant herein. As a result of Diana Sanchez's exposure to elevated levels of PFOA, PFOS, and PFCs in the drinking water supply, Diana Sanchez has elevated levels of PFOA, PFOS, and PFCs in her blood, and has been diagnosed with Thyroid Disease.

45. Plaintiff Valerie Treadwell currently resides at 927 E 2nd Street, Florence CO 81226. Plaintiff Valerie Treadwell lived at Security, Colorado Springs at all times relevant herein. As a result of Valerie Treadwell's exposure to elevated levels of PFOA, PFOS, and PFCs in the drinking water supply, Valerie Treadwell has elevated levels of PFOA, PFOS, and PFCs in her blood, and has been diagnosed with Thyroid Disease.

46. Plaintiff W.H. Wright currently resides at 6683 Fielding Cir, Colorado Springs CO 80911. Plaintiff W.H. Wright lived at 6683 Fielding Cir, Colorado Springs CO 80911 at all times relevant herein. As a result of W.H. Wright's exposure to elevated levels of PFOA, PFOS, and

PFCs in the drinking water supply, W.H. Wright has elevated levels of PFOA, PFOS, and PFCs in his blood, and has been diagnosed with Thyroid Disease.

B. Defendants

47. The term “Defendants” refers to all Defendants named herein jointly and severally.

i. The AFFF Defendants

48. The term “**AFFF Defendants**” refers collectively to Defendants 3M Company, Amerex Corporation, Buckeye Fire Equipment Company, Chemguard Inc., and Tyco Fire Products L.P.

49. **Defendant The 3M Company f/k/a Minnesota Mining and Manufacturing Co. (“3M”)** is a corporation organized and existing under the laws of the State of Delaware, with its principal place of business located at 3M Center, St. Paul, Minnesota 55144-1000.

50. Beginning before 1970 and until at least 2002, 3M designed, manufactured, marketed, distributed, and sold AFFF containing PFAS, including but not limited to PFOA and PFOS.

51. **Defendant Amerex Corporation (“Amerex”)** is a corporation organized and existing under the laws of the State of Alabama, with its principal place of business located at 7595 Gadsden Highway, Trussville, AL 35173.

52. Amerex is a manufacturer of firefighting products. Beginning in 1971, it was a manufacturer of hand portable and wheeled extinguishers for commercial and industrial applications.

53. In 2011, Amerex acquired Solberg Scandinavian AS, one of the largest manufacturers of AFFF products in Europe.

54. On information and belief, beginning in 2011, Amerex designed, manufactured, marketed distributed, and sold AFFF containing PFAS, including but not limited to PFOA and PFOS.

55. **Defendant Tyco Fire Products LP (“Tyco”)** is a limited partnership organized under the laws of the State of Delaware, with its principal place of business located at One Stanton Street, Marinette, Wisconsin 54143-2542.

56. Tyco is the successor in interest of The Ansul Company (“Ansul”), having acquired Ansul in 1990.

57. Beginning in or around 1975, Ansul designed, manufactured, marketed, distributed, and sold AFFF containing PFAS, including but not limited to PFOA and PFOS.

58. After Tyco acquired Ansul in 1990, Tyco/Ansul continued to design, manufacture, market, distribute, and sell AFFF products containing PFAS, including but not limited to PFOA and PFOS.

59. **Defendant Chemguard, Inc. (“Chemguard”)** is a corporation organized under the laws of the State of Texas, with its principal place of business located at One Stanton Street, Marinette, Wisconsin 54143.

60. On information and belief, Chemguard designed, manufactured, marketed, distributed, and sold AFFF products containing PFAS, including but not limited to PFOA and PFOS.

61. On information and belief, Chemguard was acquired by Tyco International Ltd. in 2011.

62. **Defendant Buckeye Fire Equipment Company (“Buckeye”)** is a corporation organized under the laws of the State of Ohio, with its principal place of business located at 110 Kings Road, Kings Mountain, North Carolina 28086.

63. On information and belief, Buckeye designed, manufactured, marketed, distributed, and sold AFFF products containing PFAS, including but not limited to PFOA and PFOS.

ii. The Fluorosurfactant Defendants

64. The term **“Fluorosurfactant Defendants”** refers collectively to Defendants 3M, Arkema Inc., ChemDesign Products Incorporated, Chemguard Inc., Deepwater Chemicals, Inc., E.I. DuPont de Nemours and Company, The Chemours Company, The Chemours Company FC, LLC, DuPont de Nemours Inc., and Dynax Corporation.

65. **Defendant Arkema Inc.** is a corporation organized and existing under the laws of Pennsylvania, with its principal place of business at 900 First Avenue, King of Prussia, PA 19406.

66. Arkema Inc. develops specialty chemicals and polymers.

67. Arkema, Inc. is an operating subsidiary of Arkema France, S.A.

68. On information and belief, Arkema Inc. designed, manufactured, marketed, distributed, and sold fluorosurfactants containing PFOS, PFOA, and/or their chemical precursors for use in AFFF products.

69. **Defendant ChemDesign Products Inc. (“ChemDesign”)** is a corporation organized under the laws of Delaware, with its principal place of business located at 2 Stanton Street, Marinette, WI, 54143.

70. On information and belief, ChemDesign designed, manufactured, marketed, distributed, and sold fluorosurfactants containing PFOS, PFOA, and/or their chemical precursors for use in AFFF products.

71. **Defendant Deepwater Chemicals, Inc. (“Deepwater”)** is a corporation organized under the laws of Delaware, with its principal place of business located at 196122 E County Road 40, Woodward, OK, 73801.

72. On information and belief, Deepwater Chemicals designed, manufactured, marketed, distributed, and sold fluorosurfactants containing PFOS, PFOA, and/or their chemical precursors for use in AFFF products

73. **Defendant Dynax Corporation (“Dynax”)** is a corporation organized under the laws of the State of Delaware, with its principal place of business located at 103 Fairview Park Drive, Elmsford, New York 10523.

74. On information and belief, Dynax entered into the AFFF market on or about 1991 and quickly became a leading global producer of fluorosurfactants and fluorochemical stabilizers containing PFOS, PFOA, and/or their chemical precursors.

75. On information and belief, Dynax designed, manufactured, marketed, distributed, and sold fluorosurfactants and fluorochemical stabilizers containing PFOS, PFOA, and/or their chemical precursors for use in AFFF products.

76. **Defendant E.I. du Pont de Nemours & Company (“DuPont”)** is a corporation organized under the laws of the State of Delaware, with its principal place of business located at 974 Centre Road, Wilmington, Delaware 19805.

77. **Defendant The Chemours Company (“Chemours Co.”)** is a limited liability company organized under the laws of the State of Delaware, with its principal place of business located at 1007 Market Street, P.O. Box 2047, Wilmington, Delaware, 19899.

78. In 2015, DuPont spun off its performance chemicals business to Chemours Co., along with vast environmental liabilities which Chemours Co. assumed, including those related to

PFOS and PFOA and fluorosurfactants. On information and belief, Chemours Co. has supplied fluorosurfactants containing PFOS and PFOA, and/or their chemical precursors to manufacturers of AFFF products.

79. On information and belief, Chemours Co. was incorporated as a subsidiary of DuPont as of April 30, 2015. From that time until July 2015, Chemours Co. was a wholly owned subsidiary of DuPont.

80. In July 2015, DuPont spun off Chemours Co. and transferred to Chemours Co. its “performance chemicals” business line, which includes its fluoroproducts business, distributing shares of Chemours Co. stock to DuPont stockholders, and Chemours Co. has since been an independent, publicly traded company.

81. **Defendant The Chemours Company FC, LLC (“Chemours FC”)** is a limited liability company organized under the laws of the State of Delaware, with its principal place of business located at 1007 Market Street, Wilmington, Delaware, 19899.

82. **Defendant Corteva, Inc. (“Corteva”)** is a corporation organized and existing under the laws of Delaware, with its principal place of business at 974 Centre Rd., Wilmington, Delaware 19805.

83. **Defendant Dupont de Nemours Inc. f/k/a DowDuPont, Inc. (“Dupont de Nemours Inc.”)** is a corporation organized and existing under the laws of Delaware, with its principal place of business at 974 Centre Road, Wilmington, Delaware 19805 and 2211 H.H. Dow Way, Midland, Michigan 48674.

84. On June 1, 2019, DowDuPont separated its agriculture business through the spin-off of Corteva.

85. Corteva was initially formed in February 2018. From that time until June 1, 2019, Corteva was a wholly owned subsidiary of DowDuPont.

86. On June 1, 2019, DowDuPont distributed to DowDuPont stockholders all issued and outstanding shares of Corteva common stock by way of a pro-rata dividend. Following that distribution, Corteva became the direct parent of E. I. Du Pont de Nemours & Co.

87. Corteva holds certain DowDuPont assets and liabilities, including DowDuPont's agriculture and nutritional businesses.

88. On June 1, 2019, DowDuPont, the surviving entity after the spin-off of Corteva and of another entity known as Dow, Inc., changed its name to DuPont de Nemours, Inc., to be known as DuPont ("New DuPont"). New DuPont retained assets in the specialty products business lines following the above-described spin-offs, as well as the balance of the financial assets and liabilities of E.I DuPont not assumed by Corteva.

89. Defendants E. I. Du Pont de Nemours and Company; The Chemours Company; The Chemours Company FC, LLC; Corteva, Inc.; and DuPont de Nemours, Inc. are collectively referred to as "DuPont" or the "DuPont Defendants" throughout this Complaint.

90. On information and belief, DuPont designed, manufactured, marketed, distributed, and sold fluorosurfactants containing PFOS, PFOA, and/or their chemical precursors for use in AFFF products.

91. On information and belief, 3M and Chemguard also designed, manufactured, marketed, distributed, and sold fluorosurfactants containing PFOS, PFOA, and/or their chemical precursors for use in AFFF products.

92. On information and belief, the Fluorosurfactant Defendants designed, manufactured, marketed, distributed, and sold fluorosurfactants containing PFOS, PFOA, and/or

their chemical precursors for use in AFFF products that were stored, handled, used, trained with, tested equipment with, otherwise discharged, and/or disposed at PAFB.

iii. The PFC Defendants

93. The term **“PFC Defendants”** refers collectively to 3M, AGC Chemicals Americas Inc., Archroma U.S. Inc., ChemDesign Products Inc., Chemicals, Inc., Clariant Corporation, Deepwater Chemicals, Inc., E. I. DuPont de Nemours and Company, The Chemours Company, The Chemours Company FC, LLC, Corteva, Inc., DuPont de Nemours Inc., and Nation Ford Chemical Company.

94. **Defendant AGC Chemicals Americas, Inc. (“AGCCA”)** is a corporation organized and existing under the laws of Delaware, having its principal place of business at 55 East Uwchlan Avenue, Suite 201, Exton, PA 19341.

95. On information and belief, AGCCA Chemicals Americas, Inc. was formed in 2004 and is a subsidiary of AGC Inc.

96. AGCCA manufactures specialty chemicals. It offers glass, electronic displays, and chemical products, including resins, water and oil repellants, greenhouse films, silica additives, and various fluorointermediates.

97. On information and belief, AGCCA designed, manufactured, marketed, distributed, and sold PFCs containing PFOS, PFOA, and/or their chemical precursors for use in manufacturing the fluorosurfactants used in AFFF products.

98. **Defendant Archroma U.S., Inc. (“Archroma”)** is a corporation organized and existing under the laws of Delaware, with its principal place of business at 5435 77 Center Drive, Charlotte, North Carolina 28217.

99. On information and belief, Archroma was formed in 2013 when Clariant Corporation divested its textile chemicals, paper specialties, and emulsions business to SK Capital Partners.

100. On information and belief, Archroma designed, manufactured, marketed, distributed, and sold PFCs containing PFOS, PFOA, and/or their chemical precursors for use in manufacturing the fluorosurfactants used in AFFF products.

101. **Defendant Chemicals, Inc. (“Chemicals, Inc.”)** is a corporation organized and existing under the laws of Texas, with its principal place of business located at 12321 Hatcherville, Baytown, TX 77520.

102. On information and belief, Chemicals, Inc. supplied PFCs containing PFOS, PFOA, and/or their chemical precursors for use in manufacturing the fluorosurfactants used in AFFF products.

103. **Defendant Clariant Corporation (“Clariant”)** is a corporation organized and existing under the laws of New York, with its principal place of business at 4000 Monroe Road, Charlotte, North Carolina 28205.

104. On information and belief, Clariant is the successor in interest to the specialty chemicals business of Sandoz Chemical Corporation (“Sandoz”). On information and belief, Sandoz spun off its specialty chemicals business to form Clariant in 1995.

105. On information and belief, Clariant supplied PFCs containing PFOS, PFOA, and/or their chemical precursors for use in manufacturing the fluorosurfactants used in AFFF products.

106. **Defendant Nation Ford Chemical Co. (“Nation Ford”)** is a corporation organized and existing under the laws of South Carolina, with its principal place of business located at 2300 Banks Street, Fort Mill, SC 29715.

107. On information and belief, Nation Ford supplied PFCs containing PFOS, PFOA, and/or their chemical precursors for use in manufacturing the fluorosurfactants used in AFFF products.

108. On information and belief, 3M, ChemDesign, Deepwater Chemicals, and DuPont also supplied PFCs containing PFOS, PFOA, and/or their chemical precursors for use in manufacturing the fluorosurfactants used in AFFF products.

109. On information and belief, the PFC Defendants supplied PFCs containing PFOS, PFOA, and/or their chemical precursors for use in manufacturing the fluorosurfactants used in AFFF products that were stored, handled, used, trained with, tested equipment with, otherwise discharged, and/or disposed at PAFB.

iv. Doe Defendants 1-20

110. Doe Defendants 1-20 are unidentified entities or persons whose names are presently unknown and whose actions, activities, omissions (a) may have permitted, caused and/or contributed to the contamination of Plaintiffs' water sources or supply wells; or (b) may be vicariously responsible for entities or persons who permitted, caused and/or contributed to the contamination of Plaintiffs' water sources or supply wells; or (c) may be successors in interest to entities or persons who permitted, caused and/or permitted , contributed to the contamination of Plaintiffs' water sources or supply wells. After reasonable search and investigation to ascertain the Doe Defendants actual names, the Doe Defendants' actual identities are unknown to Plaintiff as they are not linked with any of the Defendants on any public source.

111. The Doe Defendants 1-20 either in their own capacity or through a party they are liable for: (1) designed, manufactured, marketed, distributed, and/or sold AFFF products containing PFOS, PFOA, and/or their chemical precursors, and/or designed, manufactured, marketed, distributed, and/or sold the fluorosurfactants and/or PFCs contained in

AFFF/Component Products; or (2) used, handled, transported, stored, discharged, disposed of, designed, manufactured, marketed, distributed, and/or sold PFOS, PFOA, and/or their chemical precursors, or other non-AFFF products containing PFOS, PFOA, and/or their chemical precursors; or (3) failed to timely perform necessary and reasonable response and remedial measures to releases of PFOS, PFOA, and/or their chemical precursors, or other non-AFFF products containing PFOS, PFOA, and/or their chemical precursors in to the environment in which Plaintiffs' water supplies and well exist.

112. All Defendants, at all times material herein, acted by and through their respective agents, servants, officers and employees, actual or ostensible, who then and there were acting within the course and scope of their actual or apparent agency, authority or duties. Defendants are liable based on such activities, directly and vicariously.

113. Defendants represent all or substantially all of the market for AFFF/Component Products at PAFB.

FACTUAL ALLEGATIONS RELEVANT TO ALL CAUSES OF ACTION

A. PFOA and PFOS and Their Risk to Public Health

114. PFAS are chemical compounds containing fluorine and carbon. These substances have been used for decades in the manufacture of, among other things, household and commercial products that resist heat, stains, oil, and water. These substances are not naturally occurring and must be manufactured.

115. The two most widely studied types of these substances are PFOA and PFOS.

116. PFOA and PFOS have unique properties that cause them to be: (i) mobile and persistent, meaning that they readily spread into the environment where they break down very slowly; (ii) bioaccumulative and biomagnifying, meaning that they tend to accumulate in

organisms and up the food chain; and (iii) toxic, meaning that they pose serious health risks to humans and animals.

117. PFOA and PFOS easily dissolve in water, and thus they are mobile and easily spread in the environment. PFOA and PFOS also readily contaminate soils and leach from the soil into groundwater, where they can travel significant distances.

118. PFOA and PFOS are characterized by the presence of multiple carbon-fluorine bonds, which are exceptionally strong and stable. As a result, PFOA and PFOS are thermally, chemically, and biologically stable. They resist degradation due to light, water, and biological processes.

119. Bioaccumulation occurs when an organism absorbs a substance at a rate faster than the rate at which the substance is lost by metabolism and excretion. Biomagnification occurs when the concentration of a substance in the tissues of organisms increases as the substance travels up the food chain.

120. PFOA and PFOS bioaccumulate/biomagnify in numerous ways. First, they are relatively stable once ingested, so that they bioaccumulate in individual organisms for significant periods of time. Because of this stability, any newly ingested PFOA and PFOS will be added to any PFOA and PFOS already present. In humans, PFOA and PFOS remain in the body for years.

121. PFOA and PFOS biomagnify up the food chain. This occurs, for example, when humans eat fish that have ingested PFOA and/or PFOS.

122. The chemical structure of PFOA and PFOS makes them resistant to breakdown or environmental degradation. As a result, they are persistent when released into the environment.

123. Exposure to PFAS is toxic and poses serious health risks to humans and animals.

124. PFAS are readily absorbed after consumption or inhalation and accumulate primarily in the bloodstream, kidney, and liver.

B. Defendants' Manufacture and Sale of AFFF/Component Products

125. AFFF is a type of water-based foam that was first developed in the 1960s to extinguish hydrocarbon fuel-based fires.

126. AFFF is a Class-B firefighting foam. It is mixed with water and used to extinguish fires that are difficult to fight, particularly those that involve petroleum or other flammable liquids.

127. AFFF is synthetically formed by combining fluorine-free hydrocarbon foaming agents with fluorosurfactants. When mixed with water, the resulting solution produces an aqueous film that spreads across the surface of hydrocarbon fuel. This film provides fire extinguishment and is the source of the designation aqueous film-forming foam.

128. Beginning in the 1960s, the AFFF Defendants designed, manufactured, marketed, distributed, and/or sold AFFF products that used fluorosurfactants containing either PFOS, PFOA, or the chemical precursors that degrade into PFOS and PFOA.

129. AFFF can be made without the fluorosurfactants that contain PFOA, PFOS, and/or their precursor chemicals. Fluorine-free firefighting foams, for instance, do not release PFOA, PFOS, and/or their precursor chemicals into the environment.

130. AFFF that contains fluorosurfactants, however, is better at extinguishing hydrocarbon fuel-based fires due to their surface-tension lowering properties, essentially smothering the fire and starving it of oxygen.

131. The fluorosurfactants used in 3M's AFFF products were manufactured by 3M's patented process of electrochemical fluorination ("ECF").

132. The fluorosurfactants used in other AFFF products sold by the AFFF Defendants were manufactured by the Fluorosurfactant Defendants through the process of telomerization.

133. The PFCs the Fluorosurfactant Defendants needed to manufacture those fluorosurfactants contained PFOS, PFOA, and/or their chemical precursors and were designed, manufactured, marketed, distributed and/or sold by the PFC Defendants.

134. On information and belief, the PFC and Fluorosurfactant Defendants were aware that the PFCs and fluorosurfactants they designed, manufactured, marketed, distributed, and/or sold would be used in the AFFF products designed, manufactured, marketed, distributed, and/or sold by the AFFF Defendants.

135. On information and belief, the PFC and Fluorosurfactant Defendants designed, manufactured, marketed, distributed, and/or sold the PFC and/or fluorosurfactants contained in the AFFF products discharged into the environment at PAFB during fire protection, training, and response activities, resulting in widespread PFAS contamination.

136. On information and belief, the AFFF Defendants designed, manufactured, marketed, distributed, and/or sold the AFFF products discharged into the environment at PAFB during fire protection, training, and response activities, resulting in widespread PFAS contamination.

C. Defendants' Knowledge of the Threats to Public Health and the Environment Posed by PFOS and PFOA

137. On information and belief, by at least the 1970s 3M and DuPont knew or should have known that PFOA and PFOS are mobile and persistent, bioaccumulative and biomagnifying, and toxic.

138. On information and belief, 3M and DuPont concealed from the public and government agencies its knowledge of the threats to public health and the environment posed by PFOA and PFOS.

139. Some or all of the Defendants understood how stable the fluorinated surfactants used in AFFF are when released into the environment from their first sale to a customer, yet they failed to warn their customers or provide reasonable instruction on how to manage wastes generated from their products.

i. 1940s and 1950s: 3M, DuPont, and the Development of a Toxic Chemical Family

140. The development of this family of chemical compounds began with Defendant 3M in the 1940s. At that time, 3M's Central Research Laboratory was working with a scientist at Penn State University, Joseph H. Simons, who had developed and patented a process of preparing fluorine compounds through electrochemical fluorination ("ECF"). In 1945, 3M acquired Simons' ECF patents. It would be another three years before 3M's Central Research developed fluorinated compounds that could be used for commercial applications. During that time, 3M scientists continuously researched and created new fluorochemicals; in the words of one researcher, "[a]lmost every day we made a new molecule which had never been on the face of the earth before."⁵

141. From the early days of its fluorochemical research, 3M recognized the very characteristics that make PFAS persistent pollutants in the environment today. For example, Simons' 1948 patent for the ECF process, which was assigned to 3M, stated that the compounds produced through ECF are non-corrosive, and of little chemical reactivity," and "do not react with any of the metals at ordinary temperatures and react only with the more chemically reactive metals such as sodium, at elevated temperatures."⁶ The patent also stated that the fluorochemicals produced

⁵ Neil McKay, *A Chemical History of 3M: 1933-1990*.
<https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1365.pdf>

⁶ Simons, J. H., Fluorination of Organic Compounds, U.S. Patent No. 2,447,717. August 24, 1948, available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1005.pdf>.

by the ECF process do not react with other compounds or reagents due to the blanket of fluorine atoms surrounding the carbon skeleton of the molecule. 3M understood that the stability of the carbon-to-fluorine bonds prevented its fluorosurfactants from undergoing further chemical reactions or degrading under natural processes in the environment.⁷

142. 3M was also aware of the thermal stability of its fluorinated compounds prior to commercial production. Simons' ECF patent states that the compounds application further discloses that the fluorosurfactants produced by the ECF process were thermally stable at temperatures up to 750° C (1382° F). Additional research by 3M expanded its understanding of the thermal stability of fluorinated compounds.⁸

143. In 1949, 3M built the first manufacturing facility to expand ECF from laboratory research to commercial production, and it began to present its fluorochemical research in order to find potential uses and customers for the compounds it was manufacturing.

144. 3M soon found a customer: DuPont. In 1951, DuPont began purchasing a perfluorinated carboxylic acid (perfluorooctanoic acid or PFOA), for use in manufacturing a non-stick coating called Teflon.

145. Even then, 3M's research had already documented that PFAS accumulate in the blood of mice exposed to the chemicals in laboratory tests.⁹ Also, a 1956 study by researchers at Stanford University found that PFAS bind to proteins in human blood.

⁷ Simons, J. H., 1950. Fluorocarbons and Their Production. *Fluorine Chemistry*, 1(12): 401-422, *available at* <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX3008.pdf>.

⁸ Bryce, T. J., 1950. Fluorocarbons - Their Properties and Wartime Development. *Fluorine Chemistry*, 1(13): 423-462.

⁹ 1950 3M test study results with Perfluorobutyric acid. https://static.ewg.org/reports/2019/pfa-timeline/1950_Mice.pdf?_ga=2.21758526.426747500.1673645134-2012946541.1673645134

146. In 1964, a group of DuPont employees working in Teflon manufacturing became sick after their department was moved to a more enclosed workspace.¹⁰ They experienced chills, fever, difficulty breathing, and a tightness in the chest—symptoms referred to variously as “polymer-fume fever,” “Teflon flu,” or simply, “the shakes.” Polymer-fume fever was first reported in medical literature in 1951.

ii. 1960s: AFFF’s Environmental Hazards Come Into Focus

147. By at least the end of the 1960s, additional research and testing performed by 3M and DuPont indicated that fluorosurfactants, including at least PFOA, because of their unique chemical structure, were resistant to environmental degradation and would persist in the environment essentially unaltered if allowed to enter the environment.

148. One 3M employee wrote in 1964, “This chemical stability also extends itself to all types of biological processes; there are no known biological organisms that are able to attack the carbon-fluorine bond in a fluorocarbon.”¹¹ Thus, 3M knew by the mid-1960s that its surfactants were immune to chemical and biological degradation in soils and groundwater.

149. 3M also knew by 1964 that when dissolved, fluorocarbon carboxylic acids and fluorocarbon sulfonic acids, when dissolved, dissociated to form highly stable perfluorocarboxylate and perfluorosulfonate ions. Later studies by 3M on the adsorption and mobility of FC-95 (the potassium salt of PFOS) and FC-143 (the ammonium salt of PFOA) in soils indicated very high solubility and very high mobility in soils for both compounds.¹²

¹⁰ Charles E. Lewis and Gerald R. Kerby, *An Epidemic of Polymer-Fume Fever*, 191 JAMA 375 (February 1, 1965).

¹¹ Bryce, H.G., *Industrial and Utilitarian Aspects of Fluorine Chemistry* (1964), *available at* <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX3022.pdf>.

¹² Technical Report Summary re : Adsorption of FC 95 and FC143 on Soil, Feb. 27, 1978, *available at* <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1158.pdf>.

150. Also, in a 1965 study sponsored by DuPont where rats were fed a PFAS compound over a ninety-day period the rats had liver damage and showed an increased size in the spleen.

151. Despite early warnings of the toxic, persistent, and bioaccumulative nature of PFOS and PFOA, these chemicals began to be used in a product that would be released in large quantities directly into the environment whenever used: firefighting foam.

152. AFFF was first developed in the 1960s as a result of the U.S. Navy's research into the use of fluorosurfactants in firefighting foam to extinguish fuel-based shipboard fires.

153. In 1969, the Navy promulgated a military standard or "MilSpec" requiring contractors to use "fluorocarbon surfactants" in firefighting foam products. Since then, the Navy has revised this MilSpec multiple times, but at no time did the Navy specify the specific fluorosurfactants to be used in AFFF. The AFFF MilSpec was a "performance specification," meaning that the product manufacturers were given great flexibility with respect to designing a product that would meet the military's performance requirements.

154. Firefighting foam can be made without the fluorosurfactants that contain PFOA, PFOS, and/or their precursor chemicals.

155. When the Navy first promulgated the AFFF MilSpec, hundreds of different fluorosurfactants had already been created.

156. Nonetheless, beginning in the 1960s, the AFFF Defendants designed, manufactured, marketed, distributed, and/or sold AFFF products that used fluorosurfactants containing either PFOS, PFOA, or the chemical precursors that degrade into PFOS and PFOA.

157. From the late 1960s to 2002, Defendant 3M manufactured and sold AFFF containing PFOS under the brand name "Light Water."

158. Because 3M held the patents on the ECF process, other AFFF Defendants utilized PFAS produced through a different process, called fluorotelomerization. These fluorotelomer AFFF formulations were produced beginning in the 1970s. Although they are not made with PFOA, they contain precursors—polyfluorinated compounds that are known to degrade to compounds that include PFOA.

159. On information and belief, the AFFF Defendants designed, manufactured, marketed, distributed, and/or sold the AFFF products discharged into the environment in PAFB during fire protection, training, and response activities, resulting in widespread PFAS contamination.

160. The AFFF Defendants treated their foam formulations as proprietary information and did not disclose the specific chemical ingredients of their formulations to government agencies or the public.

161. Some or all of the Defendants understood how stable the fluorinated surfactants used in AFFF are when released into the environment from their first sale to a customer, yet they failed to warn their customers or provide reasonable instruction on how to manage wastes generated from their products.

iii. 1970s-1980s: Defendants Deepening Knowledge of the Risks of PFOA and PFOS

162. By at least the 1970s, as Defendants expanded the market for AFFF formulations containing PFOA and PFOS, 3M and DuPont knew or should have known that PFOA and PFOS are mobile and persistent, bioaccumulative and biomagnifying, and toxic.

163. During the 1970s, 3M also learned that the fluorosurfactants used in AFFF accumulated in the human body and were “even more toxic” than previously believed.

164. An internal memo from 3M in 1971 states that “the thesis that there is ‘no natural sink’ for fluorocarbons obviously demands some attention.”¹³ But if 3M did give this issue the attention demanded at this time, it did not share it with the public.

165. In 1975, two independent toxicologists, Dr. Warren Guy and Donald Taves, discovered that an unidentified fluorine compound had been found in human blood sampled from different blood banks. Dr. Guy contacted 3M to ask if it knew of “possible sources” of the chemicals.¹⁴ 3M’s scientists concluded internally that the fluorine compounds resembled PFOS manufactured by 3M, but 3M did not share this conclusion with the independent toxicologists or anyone else outside of 3M.

166. 3M did, however, test the blood of its own workers in 1976, finding “up to 1000 times ‘normal’ amounts of organically bound fluorine in their blood.”¹⁵

167. By the mid-1970s, 3M and Ansul (and possibly other Defendants) had an intimate understanding of the persistent nature of PFCs. A 1976 study, for example, observed no biodegradation of FC-95, the potassium salt of PFOS; a result 3M characterized as “unsurprising” in light of the fact that “[b]iodegradation of FC 95 is improbable because it is completely fluorinated.”¹⁶

168. In 1977, Ansul, the AFFF manufacturer later acquired by Defendant Tyco, authored a report titled “Environmentally Improved AFFF,” which acknowledged that releasing

¹³ Memorandum from H.G. Bryce to R.M. Adams re : Ecological Aspects of Fluorocarbons, Sept. 13, 1971, available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1088.pdf>.

¹⁴ Memorandum from G.H. Crawford to L.C. Krogh et al. re: Fluorocarbons in Human Blood Plasma, Aug. 20, 1975, available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1118.pdf>.

¹⁵ 3M Chronology – Fluorochemicals in Blood, Aug. 26, 1977, available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1144.pdf>.

¹⁶ Technical Report Summary, August 12, 1976 [3MA01252037].

AFFF into the environment could pose potential negative impacts to groundwater quality.¹⁷ Ansul wrote: “The purpose of this work is to explore the development of experimental AFFF formulations that would exhibit reduced impact on the environment while retaining certain fire suppression characteristic . . . improvements [to AFFF formulations] are desired in the environmental area, i.e., development of compositions that have a reduced impact on the environment without loss of fire suppression effectiveness.” Thus, Ansul knew by the mid-1970s that the environmental impact of AFFF needed to be reduced, yet there is no evidence that Ansul (or any other Defendant) ever pursued initiatives to do so.

169. A 1978 3M biodegradation study likewise reported that an “extensive study strongly suggest[ed]” one of its PFAS was “likely to persist in the environment for extended period unaltered by metabolic attack.”¹⁸ A year later, a 3M study reported that one of its fluorosurfactants “was found to be completely resistant to biological test conditions,” and that it appeared waterways were the fluorosurfactant’s “environmental sink.”¹⁹

170. At the same time, several studies sponsored by 3M showed that the fluorosurfactants used in AFFF were even more toxic than previously believed. A study of subacute toxicity in rhesus monkeys, in which the monkeys were to be given doses of PFOS over ninety days, had to be redesigned and repeated “[b]ecause of unexpected early mortalities in all monkeys at all levels.”²⁰ None of the monkeys survived past twenty days. As a summary of the

¹⁷ Ansul Co., Final Report: Environmentally Improved AFFF, N00173-76-C-0295, Marinette, WI, Dec. 13, 1977, *available at* <https://apps.dtic.mil/dtic/tr/fulltext/u2/a050508.pdf>.

¹⁸ Technical Report Summary re : Fate of Fluorochemicals in the Environment, Biodegradation Studies of Fluorocarbons - II, Jan. 1, 1978, *available at* <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1153.pdf>.

¹⁹ Technical Report Summary re : Fate of Fluorochemicals in the Environment, Biodegradation Studies of Fluorocarbons - III, July 19, 1978, *available at* <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1179.pdf>.

²⁰ Ninety-Day Subacute Rhesus Monkey Toxicity Study, Dec. 18, 1978, *available at*

study stated, PFOS “proved to be considerably more toxic to monkeys than anticipated[.]” In addition, PFOA reduced the survival rate of fathead minnow fish eggs,²¹ and PFOS and PFOA were shown to be toxic to rats.²² As the summary documented observed, “[b]ecause of the apparent persistence of these fluorochemicals in the body, *the most important question remains possible long term effects.*”²³

171. In 1979, 3M also completed a comprehensive biodegradation and toxicity study covering investigations between 1975 and 1978.²⁴ More than a decade after 3M began selling AFFF containing fluorosurfactants it wrote: “there has been a general lack of knowledge relative to the environmental impact of these chemicals.” The report ominously asked, “If these materials are not biodegradable, what is their fate in the environment?”

172. In 1979, 3M and DuPont discussed 3M’s discovery of high levels of PFOS in the blood of its workers. Both companies came to the same conclusion that there was “no reason” to

<https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1191.pdf>; Aborted FC95 Monkey Study, Jan. 2, 1979, available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1193.pdf>; FC-95, FC-143 and FM-3422 – 90 Day Subacute Toxicity Studies Conducted at IRDC – Review of Final Reports and Summary, available at https://static.ewg.org/reports/2019/pfa-timeline/1977_Most%20Toxic.pdf?_ga=2.34744996.426747500.1673645134-2012946541.1673645134.

²¹ The Effects of Continuous Aqueous Exposure to 78.03 on Hatchability of Eggs and Growth and Survival of Fry of Fathead Minnow, June 1978, available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1176.pdf>.

²² Acute Oral Toxicity (LD₅₀) Study in Rats (FC-143), May 5, 1978, available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1170.pdf>; FC-95, FC-143 and FM-3422 – 90 Day Subacute Toxicity Studies Conducted at IRDC – Review of Final Reports and Summary, Mar. 20, 1979, available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1199.pdf>.

²³ *Id.* (FC-95, FC-143 and FM-3422 – 90 Day Subacute Toxicity Studies Conducted at IRDC – Review of Final Reports and Summary, Mar. 20, 1979, available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1199.pdf>.)

²⁴ Technical Report Summary, Final Comprehensive Report on FM 3422, Feb. 2, 1979, available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX2563.pdf>.

notify the EPA of the finding.²⁵ 3M told the EPA in 1980 only that it had discovered PFOS in the blood of “some of our plant employees.”

173. By at least the end of the 1980s, additional research and testing performed by Defendants, including at least 3M and DuPont, indicated that elevated incidence of certain cancers and other adverse health effects, including elevated liver enzymes and birth defects, had been observed among workers exposed to such materials, including at least PFOA, but such data was not published, provided to governmental entities as required by law, or otherwise publicly disclosed at the time.

174. In 1981, DuPont tested for and found PFOA in the blood of female plant workers at its Washington Works plant in Parkersburg, West Virginia, where it had been using 3M’s PFOA to manufacture Teflon since 1951. DuPont observed and documented pregnancy outcomes in exposed workers, finding two of seven children born to female plant workers between 1979 and 1981 had birth defects—one an “unconfirmed” eye and tear duct defect, and one a nostril and eye defect.²⁶

175. In 1983, 3M researchers concluded that concerns about PFAS “give rise to concern for environmental safety,” including “legitimate questions about the persistence, accumulation potential, and ecotoxicity of fluorochemicals in the environment.”²⁷ That same year, 3M completed a study finding that PFOS caused the growth of cancerous tumors in rats.²⁸ This finding was later

²⁵ Memorandum from R.A. Prokop to J.D. Lazerte re: Disclosure of Information on Levels of Fluorochemicals in Blood, July 26, 1979, *available at* <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX2723.pdf>.

²⁶ C-8 Blood Sampling Results, *available at* <https://www.hsc.wvu.edu/resoff/research/c8/results/clinical-laboratory-tests/>

²⁷ 3M Environmental Laboratory (EE & PC), Fate of Fluorochemicals - Phase II, May 20, 1983, *available at* <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1284.pdf>.

²⁸ Two Year Oral (Diet) Toxicity/Carcinogenicity Study of Fluorochemical FC-143 in Rats, Volume 1 of

shared with DuPont and led them to consider whether “they may be obliged under their policy to call FC-143 a carcinogen in animals.”²⁹

176. In 1984, 3M documented a trend of increasing levels of PFOS in the bodies of 3M workers, leading one of the company’s medical officers to warn in an internal memo: “we must view this present trend with serious concern. It is certainly possible that . . . exposure opportunities are providing a potential uptake of fluorochemicals that exceeds excretion capabilities of the body.”³⁰

177. The same year, DuPont tested drinking water near its Washington Works plant and found elevated PFOA levels in the water, but, after deciding that limiting PFOA discharge from the plant would not be “economically attractive,” it did nothing to reduce contamination from the plant.

iv. 1990s-2000s: With 3M and DuPont Under Scrutiny, the AFFF Market Shifts to Telomerization

178. Federal law requires chemical manufacturers and distributors to immediately notify the EPA if they have information that “reasonably supports the conclusion that such substance or mixture presents a substantial risk of injury to health or the environment.” Toxic Substances Control Act (“TSCA”) § 8(e), 15 U.S.C. § 2607(e).

179. Despite its decades of research, 3M waited until May 1998 to submit a report to the EPA under TSCA Section 8(e). Even in that submission, however, 3M downplayed what it knew, according to a former employee:

Just before that submission we found PFOS in the blood of eaglets—eaglets still young enough that their only food consisted of fish caught in remote lakes by their parents. This finding

4, Aug. 29, 1987, available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1337.pdf>.

²⁹ Memorandum from R.G. Perkins to F.D. Griffith re: Summary of the Review of the FC-143 Two-Year Feeder Study Report to be presented at the January 7, 1988 meeting with DuPont, January 5, 1988, available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1343.pdf>.

³⁰ Memorandum from D.E. Roach to P.F. Riehle re: Organic Fluorine Levels, Aug. 31, 1984, available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1313.pdf>.

indicates a widespread environmental contamination and food chain transfer and probable bioaccumulation and bio-magnification. This is a very significant finding that the 8(e) reporting rule was created to collect. 3M chose to report simply that PFOS had been found in the blood of animals, which is true but omits the most significant information.³¹

180. Although 3M acknowledged, in 1998, the presence of PFOS in the blood of the general population, it insisted that it did not “believe that any reasonable basis exists to conclude that PFOS ‘presents a substantial risk of injury to health or the environment.’” Internally, the message was quite different: 3M’s Manager of Corporate Toxicology advised the company to replace “PFOS-based chemistry as these compounds [are] VERY persistent and thus insidiously toxic.”

181. In 2000, 3M, after half a century of manufacturing fluorinated chemicals through ECF, announced that it would phase out its production of several long-chain PFAS compounds, including PFOA, although it continued to manufacture other PFAS chemicals.

182. In April 2006, 3M agreed to pay EPA a penalty of more than \$1.5 million after being cited for 244 violations of the TSCA, which included violations for failing to disclose studies regarding PFOS, PFOA, and other PFCs dating back decades.

183. Likewise, in December 2005, the EPA announced it was imposing the “Largest Environmental Administrative Penalty in Agency History” against DuPont based on evidence that it violated the TSCA by concealing the environmental and health effects of PFOA.

184. On information and belief, Defendants knew or should have known that AFFF containing PFOA or PFOS would very likely injure and/or threaten public health and the environment, even when used as intended or directed.

³¹ Letter from R. Purdy, Mar. 28, 1999, *available at* <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1001.pdf>.

185. Defendants failed to warn of these risks to the environment and public health, including the impact of their AFFF/Component Products on the quality of unprotected water sources.

186. Defendants were all sophisticated and knowledgeable in the art and science of designing, formulating, and manufacturing AFFF/Component Products. They understood far more about the properties of their AFFF/Component Products—including the potential hazards they posed to human health and the environment—than any of their customers. Still, Defendants declined to use their sophistication and knowledge to design safer products.

D. The Impact of PFOS and PFOA on the Environment and Human Health Is Finally Revealed

187. As discussed above, neither 3M, DuPont, nor, on information and belief, any other Defendant complied with their obligations to notify EPA about the “substantial risk of injury to health or the environment” posed by their AFFF/Component Products. *See* TSCA § 8(e).

188. Despite decades of research, 3M first shared its concerns with EPA in the late 1990s. In a May 1998 report submitted to EPA, “3M chose to report simply that PFOS had been found in the blood of animals, which is true but omits the most significant information,” according to a former 3M employee.³²

189. On information and belief, 3M began in 2000 to phase out its production of products that contained PFOS and PFOA in response to pressure from the EPA.

190. Once the truth about PFOS and PFOA was revealed, researchers began to study the environmental and health effects associated with them, including a “C8 Science Panel” formed out

³² *Id.* Letter from R. Purdy, Mar. 28, 1999, *available at* <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1001.pdf>.

of a class action settlement arising from contamination from DuPont's Washington Works located in Wood County, West Virginia.

191. The C8 panel consisted of three epidemiologists specifically tasked with determining whether there was a probable link between PFOA exposure and human diseases. In 2012, the panel found probable links between PFOA and kidney cancer, testicular cancer, ulcerative colitis, thyroid disease, pregnancy-induced hypertension (including preeclampsia), and hypercholesterolemia.

192. Human health effects associated with PFOS exposure include immune system effects, changes in liver enzymes and thyroid hormones, low birth weight, high uric acid, and high cholesterol. In laboratory testing on animals, PFOA and PFOS have caused the growth of tumors, changed hormone levels, and affected the function of the liver, thyroid, pancreas, and immune system.

193. The injuries caused by PFAS can arise months or years after exposure.

194. Even after the C8 Science Panel publicly announced that human exposure to 50 parts per trillion, or more, of PFOA in drinking water for one year or longer had "probable links" with certain human diseases, including kidney cancer, testicular cancer, ulcerative colitis, thyroid disease, preeclampsia, and medically-diagnosed high cholesterol, Defendants repeatedly assured and represented to governmental entities, their customers, and the public (and continue to do so) that the presence of PFOA in human blood at the levels found within the United States presents no risk of harm and is of no legal, toxicological, or medical significance of any kind.

195. Furthermore, Defendants have represented to and assured such governmental entities, their customers, and the public (and continue to do so) that the work of the independent

C8 Science Panel was inadequate to satisfy the standards of Defendants to prove such adverse effects upon and/or any risk to humans with respect to PFOA in human blood.

196. At all relevant times, Defendants, through their acts and/or omissions, controlled, minimized, trivialized, manipulated, and/or otherwise influenced the information that was published in peer-review journals, released by any governmental entity, and/or otherwise made available to the public relating to PFAS in human blood and any alleged adverse impacts and/or risks associated therewith, effectively preventing the public from discovering the existence and extent of any injuries/harm as alleged herein.

E. The Fire Fighting Foam Coalition

197. Following 3M's phase-out of ECF production and its AFFF product, telomerization emerged as the dominant manufacturing process for fluorosurfactants. 3M had been the dominant manufacturer in the lucrative AFFF market, and multiple companies seized the opportunity created by 3M's withdrawal. But the market opportunity presented uncertainties, as it was unclear whether regulators would view the telomer-based AFFF as posing the same hazards as 3M's PFOS-containing AFFF. The key question for regulators was whether the telomer-based AFFF would degrade to PFOA once in the environment.

198. Defendants Tyco, Chemguard, Buckeye, and others formed a group called the Fire Fighting Foam Coalition ("FFFC") to protect their business opportunity and advocate for the continued use of telomer-based AFFF. The FFFC declared that it would serve as "a single source for accurate, balanced information on environment related questions" and would "ensure that accurate information about PFOS alternatives, including telomer-based products, is disseminated in the marketplace." The FFFC made several representations regarding the safety of telomer-based AFFF that were either misleading half-truths or were contrary to Defendants' internal knowledge. For example, the FFFC assured the public that "telomer based AFFF does not contain PFOS and cannot be oxidized or metabolized into PFOS." This statement was true, but only because PFOS was exclusively manufactured by 3M, and it did not mean that telomer-based AFFF was any safer.

199. The FFFC also told the EPA in 2001 that telomer-based AFFF "does not contain any PFOA-based product." The issue, however, was whether telomer-based AFFF could degrade into PFOA. One company executive admitted in an internal memo that his company's AFFF "will degrade in the environment" to produce PFOA and the "question is how toxic" and how "bioaccumulative" these degraded products are. But contrary to this internal acknowledgment, the

FFFC publicly asserted that “telomer based fire fighting foams are not likely to be a source of PFOA in the environment.”³³

200. The EPA appointed a committee known as the Telomer Technical Workgroup to make recommendations to the agency. The president of the FFFC represented the telomer-based AFFF industry on the EPA committee. When, in 2003, the Telomer Technical Workgroup reported its conclusions and recommendations, the FFFC president was the spokesperson.

201. In what the FFFC president called a “major victory” for the industry, the EPA accepted the proposal of its Workgroup that “telomer-based fire fighting foams no longer be considered as part of the PFOA ECA process.” The FFFC president remarked that “[w]hen we started this organization two years ago [in 2001], the fate of telomer based AFFF was being tied directly to the fate of PFOA and the EPA had just told the military to start searching for alternatives to AFFF.” The telomer-based AFFF Defendants had successfully forestalled government restrictions on their products, thereby prolonging the use of AFFF in PAFB and elsewhere.

202. The fluorochemicals the Fluorosurfactant Defendants needed to manufacture those fluorosurfactants contained PFOS, PFOA, and/or their chemical precursors and were designed, manufactured, marketed, distributed and/or sold by the PFC Defendants.

203. On information and belief, the PFC and Fluorosurfactant Defendants were aware that the fluorochemicals and fluorosurfactants they designed, manufactured, marketed, distributed, and/or sold would be used in the AFFF products designed, manufactured, marketed, distributed, and/or sold by the AFFF Defendants.

³³ *In Re: Aqueous Film-Forming Foams Prods. Liab. Litig.*, 2:18-mn-02873-RMG:28, Email from Tom Cortina to Members re: PFOA ECA Plenary Meeting (Oct. 30, 2003) attached as an exhibit to Plaintiffs’ Omnibus Opposition to Defendants’ Motion for Partial Summary Judgment on the Second and Third Prongs of the Government Contractor Immunity Defense, ECF 2409-108.

204. On information and belief, the PFC and Fluorosurfactant Defendants designed, manufactured, marketed, distributed, and/or sold the fluorochemicals and/or fluorosurfactants contained in the AFFF products discharged into the environment within PAFB during fire protection, training, and response activities, resulting in widespread PFAS contamination.

F. Federal, State, and International Government Agencies Call for Monitoring and Cleanup of PFAS Contamination

205. On May 2, 2012, the EPA published its Third Unregulated Contaminant Monitoring Rule (“UCMR3”), requiring public water systems nationwide to monitor for thirty contaminants of concern between 2013 and 2015, including PFOS and PFOA.³⁴

206. In the May 2015 “Madrid Statement on Poly- and Perfluoroalkyl Substances (PFAS’s),” scientists and other professionals from a variety of disciplines, concerned about the production and release into the environment of PFOA, called for greater regulation, restrictions, limits on the manufacture and handling of any PFOA containing product, and to develop safe non-fluorinated alternatives to these products to avoid long-term harm to human health and the environment.³⁵

207. On May 25, 2016, the EPA released a lifetime health advisory level (HAL) for drinking water and health effects support documents for PFOS and PFOA.³⁶ The EPA developed the HAL to assist governmental officials in protecting public health when PFOS and PFOA are present in drinking water. The EPA HAL identified the concentration of PFOS and PFOA in

³⁴ *Revisions to the Unregulated Contaminant Monitoring Regulation (UCMR 3) for Public Water Systems*, 77 Fed. Reg. 26072 (May 2, 2012).

³⁵ Blum A, Balan SA, Scheringer M, Trier X, Goldenman G, Cousins IT, Diamond M, Fletcher T, Higgins C, Lindeman AE, Peaslee G, de Voogt P, Wang Z, Weber R. 2015. The Madrid statement on poly- and perfluoroalkyl substances (PFASs). *Environ Health Perspect* 123:A107–A111; <http://dx.doi.org/10.1289/ehp.1509934>.

³⁶ *See* Fed. Register, Vol. 81, No. 101, May 25, 2016, Lifetime Health Advisories and Health Effects Support Documents for Perfluorooctanoic Acid and Perfluorooctane Sulfonate.

drinking water at or below which adverse health effects are not anticipated to occur over a lifetime of exposure at 0.07 ppb or 70 ppt. The HAL was based on peer-reviewed studies of the effects of PFOS and PFOA on laboratory animals (rats and mice) and was also informed by epidemiological studies of human populations exposed to PFOS. These studies indicated that exposure to PFOS and PFOA over the HAL could result in adverse health effects, including:

- a. Developmental effects to fetuses during pregnancy or to breastfed infants (e.g., low birth weight, accelerated puberty, skeletal variations);
- b. Cancer (testicular and kidney);
- c. Liver effects (tissue damage);
- d. Immune effects (e.g., antibody production and immunity);
- e. Thyroid disease and other effects (e.g., cholesterol changes).

208. In 2016, the National Toxicology Program of the United States Department of Health and Human Services (“NTP”) and the International Agency for Research on Cancer (“IARC”) both released extensive analyses of the expanding body of research regarding the adverse effects of PFCs. The NTP concluded that both PFOA and PFOS are “presumed to be an immune hazard to humans” based on a “consistent pattern of findings” of adverse immune effects in human (epidemiology) studies and “high confidence” that PFOA and PFOS exposure was associated with suppression of immune responses in animal (toxicology) studies.³⁷

209. IARC similarly concluded that there is “evidence” of “the carcinogenicity of . . . PFOA” in humans and in experimental animals, meaning that “[a] positive association has been

³⁷ See U.S. Dep’t of Health and Human Services, Nat’l Toxicology Program, *NTP Monograph: Immunotoxicity Associated with Exposure to Perfluorooctanoic Acid or Perfluorooctane Sulfonate* (Sept. 2016), at 1, 17, 19, available at https://ntp.niehs.nih.gov/ntp/ohat/pfoa_pfos/pfoa_pfosmonograph_508.pdf

observed between exposure to the agent and cancer for which a causal interpretation is . . . credible.”³⁸

210. California has listed PFOA and PFOS to its Proposition 65 list as a chemical known to cause reproductive toxicity under the Safe Drinking Water and Toxic Enforcement Act of 1986.³⁹

211. The United States Senate and House of Representatives passed the National Defense Authorization Act in November 2017, which included \$42 million to remediate PFC contamination from military bases, as well as devoting \$7 million toward the Investing in Testing Act, which authorizes the Center for Disease Control and Prevention (“CDC”) to conduct a study into the long-term health effects of PFOA and PFOS exposure.⁴⁰ The legislation also required that the Department of Defense submit a report on the status of developing a new military specification for AFFF that did not contain PFOS or PFOA.⁴¹

212. In June 2018, the Agency for Toxic Substances and Disease Registry (“ATSDR”) and EPA released a draft toxicological profile for PFOS and PFOA and recommended the drinking water advisory levels be lowered to 11 ppt for PFOA and 7 ppt for PFOS.⁴²

³⁸ See Int’l Agency for Research on Cancer, IARC Monographs: *Some Chemicals Used as Solvents and in Polymer Manufacture* (Dec. 2016), at 27, 97, available at <http://monographs.iarc.fr/ENG/Monographs/vol110/mono110.pdf>.

³⁹ California Office of Environmental Health Hazard Assessment, *Chemicals Listed Effective Nov. 10, 2017 as Known to the State of California to Cause Reproductive Toxicity: Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS)*, Nov. 9, 2017, available at <https://oehha.ca.gov/proposition-65/crn/chemicals-listed-effective-november-10-2017-known-state-california-cause>.

⁴⁰ National Defense Authorization Act for Fiscal Year 2018, H.R. 2810, 115th Congress (2017), available at <https://www.congress.gov/115/plaws/publ91/PLAW-115publ91.pdf>.

⁴¹ *Id.*; see also U.S. Department of Defense, *Alternatives to Aqueous Film Forming Foam Report to Congress*, June 2018, available at <https://www.denix.osd.mil/derp/home/documents/alternatives-to-aqueous-film-forming-foam-report-to-congress/>.

⁴² ATSDR, *Toxicological Profile for Perfluoroalkyls: Draft for Public Comment* (June 2018), available at <https://www.atsdr.cdc.gov/toxprofiles/tp200.pdf>.

213. In December 2019, the United States Senate and House of Representatives passed the National Defense Authorization Act for Fiscal Year 2020 ("FY 2020 NDAA"), which introduced new prohibitions on the use of PFAS-containing AFFF for land-based applications.⁴³ Section 322 of the Act introduced a timeline for the phasing out of AFFF use by the military, including by requiring the Secretary of the Navy to publish a new military specification for a fluorine-free fire-fighting agent for use at all military installations by January 31, 2023. Section 322(b) and (c) then provide that Department of Defense organizations will no longer be authorized to purchase AFFF containing more than 1 part per billion of PFAS after October 1, 2023, and that after October 1, 2024, this prohibition will extend to the use of any PFAS-containing AFFF at any military installation.

214. On February 20, 2020, the EPA announced a proposed decision to regulate PFOA and PFOS under the Safe Drinking Water Act, which the agency characterized as a "key milestone" in its efforts to "help communities address per- and polyfluoroalkyl substances (PFAS) nationwide."⁴⁴

215. On June 15, 2022, the EPA released new drinking water health advisory levels (HALs) for four PFAS, including new interim HALs for PFOS and PFOA that departed significantly from the 2016 EPA HAL they replaced.⁴⁵ Specifically, EPA issued HALs of 0.004 ppt for PFOA and 0.02 ppt for PFOS,⁴⁶ which collectively accounted for only a small fraction of

⁴³ National Defense Authorization Act for Fiscal Year 2020, S. 1790, 116th Congress (2019), *available at* <https://www.govinfo.gov/content/pkg/BILLS-116s1790enr/pdf/BILLS-116s1790enr.pdf>.

⁴⁴ Press Release, *EPA Announces Proposed Decision to Regulate PFOA and PFOS in Drinking Water*, Feb. 20, 2020, *available at* <https://www.epa.gov/newsreleases/epa-announces-proposed-decision-regulate-pfoa-and-pfos-drinking-water>.

⁴⁵ See Fed. Register, Vol. 87, No. 36848, June 21, 2022, Lifetime Drinking Water Health Advisories for Four Perfluoroalkyl Substances.

⁴⁶ *Id.*

the combined 70 ppt HAL that preceded them. Importantly, EPA set these interim HALs at levels below which PFOS and PFOA can be measured using current analytic methods, meaning that the mere detection of PFOS or PFOA in a water provider's system would be sufficient on its own to exceed the new levels.

216. As support for its decision, EPA explained that the science had evolved since 2016 and that the new interim HALs for PFOS and PFOA were “based on human studies” that “found associations between PFOA and/or PFOS exposure and effects on the immune system, the cardiovascular system, human development (e.g., decreased birth weight), and cancer.”⁴⁷ Specifically, EPA had performed updated health effects analyses for PFOS and PFOA to provide support for the drinking water regulations the agency planned to adopt for the two chemicals under the SDWA. Based on these analyses, EPA concluded that “the levels at which negative health effects could occur are much lower than previously understood when EPA issued the 2016 health advisories for PFOA and PFOS – including near zero for certain health effects.”⁴⁸ For this reason, the agency determined there was a “pressing need to provide updated information on the current best available science to public health officials prior to finalization of the health effects assessment.”⁴⁹

⁴⁷ EPA, *Drinking Water Health Advisories for PFAS Fact Sheet for Communities* at 1-2 (June 2022), available at <https://www.epa.gov/system/files/documents/2022-06/drinking-water-ha-pfas-factsheet-communities.pdf>.

⁴⁸ EPA, *Drinking Water Health Advisories for PFAS Fact Sheet for Public Water Systems* at 2 (June 2022), available at <https://www.epa.gov/system/files/documents/2022-06/drinking-water-ha-pfas-factsheet-water-system.pdf>.

⁴⁹ EPA Office of Water, EPA Doc. No. 822-R-22-003, *INTERIM Drinking Water Health Advisory: Perfluorooctanoic Acid (PFOA) CASRN 335-67-1* at 18 (June 2022), available at <https://www.epa.gov/system/files/documents/2022-06/interim-pfoa-2022.pdf>; EPA Office of Water, EPA Doc. No. 822-R-22-004, *INTERIM Drinking Water Health Advisory: CASRN 1763-23-1* at 18 (June 2022), available at <https://www.epa.gov/system/files/documents/2022-06/interim-pfos-2022.pdf>.

217. Because the referenced health analyses are still undergoing final review by EPA's Science Advisory Board, the agency has stated that the new interim HALs for PFOS and PFOA are subject to change. EPA has indicated, however, that it does not anticipate any changes resulting in revised HALs for PFOS and PFOA that are greater than the 4 ppt minimum reporting level⁵⁰ that applies to Public Water Systems.⁵¹

218. On September 6, 2022, EPA published a notice of proposed rulemaking seeking public comment on its plan to designate PFOS and PFOA as hazardous substances under CERCLA.⁵² Pursuant to that notice, all comments from the public must be submitted by November 7, 2022.

219. On January 6, 2023, the Defense Logistics Agency within the Department of Defense published a new Military Specification for "Fire Extinguishing Agent, Fluorine-Free Foam (F3) Liquid Concentrate, for Land-Based, Fresh Water Application," MIL-PRF-32725 ("F3 MilSpec") in accordance with § 332(a)(1) of the FY 2020 NDAA.⁵³ This new specification will govern fire extinguishing foams used by all Department of Defense organizations and will require such foams to test "non-detect" for PFAS. The specification further requires manufacturers to "certify in writing that PFAS has not intentionally been added to the concentrate."

⁵⁰ As EPA's website explains, the Minimum Reporting Level ("MRL") for Unregulated Contaminant Monitoring Rule (UCMR) 5 is the minimum quantitation level that, with 95 percent confidence, can be achieved by capable analysts at 75 percent or more of the laboratories using a specified analytical method. The MRLs in EPA's chart are based on the UCMR 5 requirement to use EPA Method 533.

⁵¹ EPA, *Drinking Water Health Advisories for PFAS Fact Sheet for Public Water Systems* at 2 (June 2022), available at <https://www.epa.gov/system/files/documents/2022-06/drinking-water-ha-pfas-factsheet-water-system.pdf>.

⁵² See Designation of Perfluorooctanoic Acid (PFOA) and Perfluorooctanesulfonic Acid (PFOS) as CERCLA Hazardous Substances, 87 Fed. Reg. 54415 (Sep. 6, 2022).

⁵³ Available on the Defense Logistics Agency's website, https://quicksearch.dla.mil/qsDocDetails.aspx?ident_number=285047.

220. On April 10, 2024, EPA announced enforceable levels for PFOA and PFOS in drinking water. EPA set maximum containment levels (MCLs) for PFOA and PFOS at 4.0 ppt (also expressed as ng/L).

G. AFFF Containing PFOS and PFOA Is Fungible and Commingled in the Groundwater

221. AFFF containing PFOS and/or PFOA, once it has been released to the environment, lacks characteristics that would enable identification of the company that manufactured that particular batch of AFFF or chemical feedstock.

222. A subsurface plume, even if it comes from a single location, such as a retention pond or fire training area, originates from mixed batches of AFFF and chemical feedstock coming from different manufacturers.

223. At PAFB, AFFF/Component Products from different manufacturers were used at multiple training sites over the course of many years, rendering it impossible for investigators to identify with any certainty the exact AFFF/Component Products that produced the PFOA or PFOS at issue.

224. Even if investigators could track the source of a subsurface plume to a single location at PAFB, it would be impossible to identify how an individual Defendants' AFFF/Component Product contributed to the contamination because of how AFFF was used, stored, and disposed of at those locations.

225. The case at PAFB is typical of PFOA and PFOS contamination cases generally: even though several areas were located at PAFB where the AFFF was used and entered the groundwater, neither the federal or state investigators could determine which manufacturers' AFFF/Component Products containing PFOA and PFOS had contributed to the resulting groundwater contamination plume.

226. PFOA and PFOS are present in all Defendants' AFFF/Component Products.

227. Because precise identification of the specific manufacturer of any given AFFF/Component Product that was a source of the PFAS found at Plaintiffs' blood is nearly impossible, given certain exceptions, Plaintiffs must pursue all Defendants, jointly and severally.

228. Defendants are also jointly and severally liable because they conspired to conceal the true toxic nature of PFOS and PFOA, to profit from the use of AFFF/Component Products containing PFOS and PFOA, at Plaintiffs' expense, and to attempt to avoid liability for such contamination of the groundwater and poisoning of the Plaintiffs.

H. Plaintiffs' Exposure and Damages

229. Years of ingestion and dermal absorption of contaminated water from the Fountain, Security, and Widefield water districts have exposed unknowing residents of the Communities to PFCs at concentrations hazardous to their health.

230. Plaintiffs have been injured as a result of receiving water with elevated levels of PFCs, including PFOA and PFOS.

231. Plaintiffs have suffered exposure, bioaccumulation of PFCs in their blood, personal injury and property damage due to PFC contamination of the municipal and private water supplies caused by Defendants' manufacture, distribution, and sale of AFFF/Component Products.

232. The properties of the adult Plaintiffs have been damaged due to the presence of PFCs in their homes, soil, surrounding property, and potable water supply.

233. Plaintiffs seek recovery from all Defendants for injuries, damages, and losses suffered by the Plaintiffs, each of whom suffered property damage and/or injuries as a direct and proximate result of exposure to and consumption of PFC-contaminated water from the municipal and private drinking water supplies, in an amount to be determined at trial, exclusive of interest, costs, and attorneys' fees.

I. AFFF Usage at Peterson Air Force Base and the Colorado Springs Municipal Airport

234. Upon information and belief, Defendants each manufactured AFFF/Component Products containing PFCs that were sold to the DOD or the USAF with knowledge that AFFF would be used in training operations and for emergency fire-fighting activities.

235. Upon information and belief, Defendants' AFFF/Component Products were sold to and used at PAFB.

236. At any given time, the Defendants were responsible for the design, manufacture, and sale of thousands of gallons of AFFF concentrate used and stored at PAFB.

237. The AFFF was expected to and did reach PAFB without substantial change in the condition in which the Defendants sold it.

238. For decades, USAF personnel used AFFF designed, manufactured, and sold by each of the Defendants for training operations at the PAFB, including firefighting and explosion training.

239. Due to these training operations, AFFF was released into the surrounding air, soil, and groundwater at locations including but not limited to the current fire training area ("FTA") (1991 to date), the former FTA known as Site 5 (1960 through 1977), and the former FTA known as Site 8 (1977 to 1991).

240. AFFF was additionally introduced into the groundwater via aircraft hangers containing fire suppression systems that used AFFF. During function testing or false alarms, AFFF was permitted to enter the air, soil, and groundwater, further contaminating Plaintiffs' drinking water.

241. At PAFB, two fire stations conduct spray testing with AFFF, releasing AFFF into the soil, air, and groundwater.

242. In November 2016, the U.S. Army Corps of Engineers published “Revised Final Preliminary Assessment Report for Perfluorinated Compounds at Peterson Air Force Base,” a report that confirmed the use of AFFF at PAFB and identified fire training areas at PAFB as possible sources of PFC contamination of the Communities’ groundwater supply.

243. As a direct and proximate result of the failure to warn the USAF, PAFB, or the surrounding Communities, including those most sensitive to contamination, AFFF and its constituents were permitted to enter the air, soil, and groundwater, ultimately entering the Plaintiffs’ bodies and properties.

244. Upon information and belief, instructions, warning labels, and material safety data sheets that Defendants provided with their AFFF/Component Products did not reasonably nor adequately describe the health and environmental hazards of AFFF/Component Products that Defendants knew or should have known.

**MARKET SHARE LIABILITY, ALTERNATIVE LIABILITY,
CONCERT OF ACTION, AND ENTERPRISE LIABILITY**

245. Defendants in this action are manufacturers that control a substantial share of the market for AFFF/Component Products containing PFOS, PFOA, and/or their chemical precursors in the United States and are jointly responsible for the contamination of the groundwater at the Communities. Market share liability attaches to all Defendants and the liability of each should be assigned according to its percentage of the market for AFFF/Component Products at issue in this Complaint.

246. Because PFAS is fungible, it is impossible to identify the exact Defendant who manufactured any given AFFF/Component Product containing PFOS, PFOA, and/or their chemical precursors found free in the air, soil or groundwater, and each of these Defendants

participated in a territory-wide and U.S. national market for AFFF/Component Products during the relevant time.

247. Concert of action liability attaches to all Defendants, each of which participated in a common plan to commit the torts alleged herein and each of which acted tortuously in pursuance of the common plan to knowingly manufacture and sell inherently dangerous AFFF/Component Products containing PFOS, PFOA, and/or their chemical precursors.

248. Enterprise liability attaches to all the named Defendants for casting defective products into the stream of commerce.

CONSPIRACY

249. Defendants actually knew of the health and environmental hazards which PFOA and PFOS posed to Plaintiffs.

250. Beginning in the 1970s and continuing through the date of this Complaint, Defendants formed joint task forces, committees and otherwise colluded for the avowed purpose of providing information about AFFF/Component Products containing PFOA and/or PFOS to the public and to government agencies with the unlawful purpose of:

251. Creating a market for AFFF/Component Products containing PFOA and/or PFOS despite knowledge of the hazards which PFOA and PFOS posed to the groundwater in Colorado and the residents who depend on such water;

252. Concealing the environmental properties and toxic nature of PFOA and PFOS, and its impact on Plaintiffs and the environment; and

253. Maximizing profits in a way Defendants knew or should have known would result in the contamination of Plaintiffs' drinking water.

254. Defendants carried out their conspiracy by one or more of the following overt acts or omissions:

255. Intentionally representing to the DOD, USAF, USEPA and the public that AFFF/Component Products containing PFOA and PFOS were safe and did not pose an environmental or human health risk;

256. Concealing the dangers of PFOA and PFOS (including toxicological information on the dangers of the chemicals to living organisms, adverse fate and transport characteristics, and the propensity of PFOA and PFOS to contaminate groundwater) from the government and the public by, among other means, repeatedly requesting that information about the dangers and health effects of PFOA and PFOS be suppressed and not otherwise published, and by downplaying any adverse findings relating to PFOA and PFOS;

257. Concealing the dangers of AFFF/Component Products containing PFOA and PFOS from end users, sensitive receptors, public water suppliers, and the users and consumers of groundwater;

258. Using their considerable resources to fight PFOA and PFOS regulation; and

259. Collectively deciding to use PFOA and/or PFOS rather than other, safer surfactants because AFFF/Component Products containing PFOA and/or PFOS were the most profitable surfactant for Defendants to use.

260. As a direct and proximate result of the Defendants' described above conspiracy, PFOA and PFOS, at all times relevant to this litigation has:

261. Posed and continues to pose a health threat to Plaintiffs because it has bioaccumulated in his body.

CAUSES OF ACTION FOR INDIVIDUAL CLAIMS

COUNT I:
STRICT PRODUCTS LIABILITY – DEFECTIVE DESIGN

262. Plaintiffs adopt, reallege, and incorporate the allegations in the preceding paragraphs above, and further allege the following:

263. As manufacturers of AFFF/Component Products containing PFOS, PFOA, and/or their chemical precursors, Defendants owed a duty to all persons whom its products might foreseeably harm, including Plaintiffs, and not to market any product which is unreasonably dangerous in design for its reasonably anticipated use.

264. Defendants' AFFF/Component Products were unreasonably dangerous for its reasonably anticipated uses for the following reasons:

- a. PFAS causes extensive groundwater contamination, even when used in its foreseeable and intended manner;
- b. Even at extremely low levels, PFAS render drinking water unfit for consumption;
- c. PFAS poses significant threats to public health; and
- d. PFAS create real and potential environmental damage.

265. Defendants knew of these risks and failed to use reasonable care in the design of their AFFF/Component Products.

266. AFFF containing PFOS, PFOA, and/or their chemical precursors poses a greater danger to the environment and to human health than would be expected by ordinary persons such as Plaintiffs and the general public.

267. At all times, Defendants were capable of making AFFF/Component Products that did not contain PFOS, PFOA, and/or their chemical precursors. Thus, reasonable alternative designs existed which were capable of preventing Plaintiffs' injuries.

268. The risks posed by AFFF containing PFOS, PFOA, and/or their chemical precursors far outweigh the products' utility as a flame-control product.

269. The likelihood that Defendants' AFFF/Component Products would be spilled, discharged, disposed of, or released into the environment and injure Plaintiffs far outweighed any burden on Defendants to adopt an alternative design, and outweighed the adverse effect, if any, of such alternative design on the utility of the product.

270. As a direct and proximate result of Defendants' unreasonably dangerous design, manufacture, and sale of AFFF/Component Products containing PFOS, PFOA, and/or their chemical precursors, Plaintiffs have been injured in that their exposure to PFOA, PFOS, and potentially other toxic substances have produced an increased level of PFOA and PFOS in Plaintiffs' blood stream, leading to the bioaccumulation of PFOA and PFOS in their bodies and significantly increasing their risk of developing numerous serious medical conditions.

271. As a result of Defendants manufacture, sale, or distribution of a defective product, Defendants are strictly liable in damages to Plaintiffs.

272. Defendants' acts were willful, wanton, reckless and/or conducted with a reckless indifference to the rights of Plaintiffs.

273. Defendants knew that it was substantially certain that their acts and omissions described above would injure Plaintiffs. Defendants committed each of the above-described acts and omissions knowingly, willfully, and/or with fraud, oppression, or malice, and with conscious and/or reckless disregard for Plaintiffs' health and safety, and/or property rights.

COUNT II:
STRICT PRODUCTS LIABILITY – FAILURE TO WARN

274. Plaintiffs adopt, reallege, and incorporate the allegations in the preceding paragraphs above, and further allege the following:

275. As manufacturers of AFFF/Component Products containing PFOS, PFOA, and/or their chemical precursors, Defendants had a duty to provide adequate warnings of the risks of these products to all persons whom its product might foreseeably harm, including Plaintiffs and the public.

276. Defendants' AFFF/Component Products were unreasonably dangerous for its reasonably anticipated uses for the following reasons:

- a. PFAS causes extensive groundwater contamination, even when used in its foreseeable and intended manner;
- b. Even at extremely low levels, PFAS render drinking water unfit for consumption;
- c. PFAS poses significant threats to public health; and
- d. PFAS create real and potential environmental damage.

277. Defendants knew of the health and environmental risks associated with their AFFF/Component Products, and failed to provide a warning that would lead an ordinary reasonable user or handler of a product to contemplate the dangers associated with their products or an instruction that would have avoided Plaintiffs' injuries.

278. Despite Defendants' knowledge of the environmental and human health hazards associated with the use and/or disposal of their AFFF/Component Products in the vicinity of drinking water supplies, including PFAS contamination of public drinking supplies and private wells, Defendants failed to issue any warnings, instructions, recalls, or advice regarding their AFFF/Component Products to Plaintiffs, governmental agencies or the public.

279. As a direct and proximate result of Defendants' failure to warn, Plaintiffs have been injured in that their exposure to PFOA, PFOS, and potentially other toxic substances have produced an increased level of PFOA and PFOS in Plaintiffs' blood stream, leading to the bioaccumulation of

PFOA and PFOS in their bodies and significantly increasing their risk of developing numerous serious medical conditions.

280. Defendants knew that it was substantially certain that their acts and omissions described above would injure Plaintiffs. Defendants committed each of the above-described acts and omissions knowingly, willfully, and/or with fraud, oppression, or malice, and with conscious and/or reckless disregard for Plaintiffs' health and safety, and/or property rights.

COUNT III:
NEGLIGENCE

281. Plaintiffs adopt, reallege, and incorporate the allegations in the preceding paragraphs above, and further allege the following:

282. As manufacturers of AFFF/Component Products containing PFOS, PFOA, and/or their chemical precursors, Defendants owed a duty to Plaintiff and to all persons whom its products might foreseeably harm and to exercise due care in the formulation, manufacture, sale, labeling, warning, and use of PFAS-containing AFFF.

283. Defendants owed a duty to Plaintiff to act reasonably and not place inherently dangerous AFFF/Component Products into the marketplace when its release into the air, soil, and water was imminent and certain.

284. Defendants knew or should have known that PFAS were leaching from AFFF used for fire protection, training, and response activities.

285. Defendants knew or should have known that PFAS are highly soluble in water, highly mobile, extremely persistent in the environment, and high likely to contaminate water supplies if released into the environment.

286. Defendants knew or should have known that the manner in which they were designing, manufacturing, marketing, distributing, and selling their AFFF/Component Products

would result in the contamination of the municipal and private well drinking water supplies of the Communities given their proximity to PAFB.

287. Despite the fact that Defendants knew or should have known that PFAS are toxic, can contaminate water resources and are carcinogenic, Defendants negligently:

- a. designed, manufactured, formulated, handled, labeled, instructed, controlled, marketed, promoted, and/or sold AFFF/Component Products containing PFOS, PFOA, and/or their chemical precursors;
- b. issued deficient instructions on how their AFFF/Component Products should be used and disposed of, thereby permitting PFAS to contaminate the groundwater in and around PAFB;
- c. failed to recall and/or warn the users of their AFFF/Component Products of the dangers of groundwater contamination as a result of standard use and disposal of their products;
- d. failed and refused to issue the appropriate warning and/or recalls to the users of their AFFF/Component Products; and
- e. failing to take reasonable, adequate, and sufficient steps or actions to eliminate, correct, or remedy any contamination after it occurred.

288. The magnitude of the burden on the Defendants to guard against this foreseeable harm to Plaintiff was minimal, as the practical consequences of placing this burden on the Defendants amounted to a burden to provide adequate instructions, proper labeling, and sufficient warnings about their AFFF/Component Products.

289. As manufacturers, Defendants were in the best position to provide adequate instructions, proper labeling, and sufficient warnings about their AFFF/Component Products, and to take steps to eliminate, correct, or remedy any contamination they caused.

290. As a direct and proximate result of Defendants' negligence, Plaintiffs have been injured in that their exposure to PFOA, PFOS, and potentially other toxic substances have produced an increased level of PFOA and PFOS in Plaintiffs' blood stream, leading to the bioaccumulation of PFOA and PFOS in their bodies and significantly increasing their risk of developing numerous serious medical conditions.

291. Defendants knew that it was substantially certain that their acts and omissions described above would result in the contamination of the municipal and private well drinking water supplies of the Communities given their proximity to PAFB. Defendants committed each of the above-described acts and omissions knowingly, willfully, and/or with fraud, oppression, or malice, and with conscious and/or reckless disregard for Plaintiffs' health and safety, and/or property rights.

COUNT IV:
VIOLATION OF THE "COLORADO UNIFORM FRAUDULENT TRANSFER ACT"

(E. I. Du Pont de Nemours and Company, The Chemours Company, The Chemours Company FC, LLC, Corteva, Inc., and DuPont de Nemours, Inc.)

292. Plaintiffs adopt, reallege, and incorporate the allegations in the preceding paragraphs above, and further allege the following:

293. Plaintiffs hereby incorporate by reference the allegations contained in the preceding paragraphs of this Complaint as if they were set forth at length herein.

294. Plaintiffs seek equitable and other relief pursuant to the Colorado Uniform Fraudulent Transfer Act (CUFTA) as adopted by the State of Colorado, against E. I. Du Pont de Nemours and Company, The Chemours Company, The Chemours Company FC, LLC, Corteva,

Inc., and DuPont de Nemours, Inc. (collectively the CUFTA Defendants). C.R.S. § 38-8-101, et seq.

295. Under the CUFTA: “[a] transfer made or obligation incurred by a debtor is fraudulent as to a creditor, whether the creditor’s claim arose before or after the transfer was made or the obligation was incurred, if the debtor made the transfer or incurred the obligation: (a) With actual intent to hinder, delay, or defraud any creditor of the debtor; or (b) Without receiving a reasonably equivalent value in exchange for the transfer or obligation, and the debtor: (I) Was engaged or was about to engage in a business or a transaction for which the remaining assets of the debtor were unreasonably small in relation to the business or transaction; or (II) Intended to incur or believed or reasonably should have believed that he would incur, debts beyond his ability to pay as they became due. C.R.S. § 38-8-105.

296. The CUFTA Defendants have (a) acted with actual intent to hinder, delay and defraud parties, and/or (b) without receiving a reasonably equivalent value in exchange for the transfer or obligation, and (i) were engaged or were about to engage in a business for which the remaining assets of The Chemours Company were unreasonably small in relation to the business; or (ii) intended to incur, or believed or reasonably should have believed that The Chemours Company would incur, debts beyond its ability to pay as they became due.

297. CUFTA Defendants engaged in acts in furtherance of a scheme to transfer E. I. Du Pont de Nemours and Company’s assets out of the reach of parties such as Plaintiffs that have been damaged as a result of the CUFTA Defendants’ conduct, omissions, and actions described in this Complaint.

298. It is primarily E. I. Du Pont de Nemours and Company, rather than The Chemours Company, that for decades manufactured, marketed, distributed and/or sold AFFF/Component

Products containing PFAS and PFAS with the superior knowledge that they were toxic, mobile, persistent, bioaccumulative, and biomagnifying, and through normal and foreseen use, would contaminate the Plaintiffs' drinking water supply and injure the Plaintiffs.

299. As a result of the transfer of assets and liabilities described in this Complaint, the CUFTA Defendants have attempted to limit the availability of assets to cover judgments for all of the liability for damages and injuries from the manufacturing, marketing, distribution and/or sale of AFFF/Component Products containing PFAS and PFAS.

300. At the time of the transfer of its Performance Chemicals Business to The Chemours Company, E. I. Du Pont de Nemours and Company had been sued, threatened with suit and/or had knowledge of the likelihood of litigation to be filed regarding DuPont's liability for damages and injuries from the manufacturing, marketing, distribution and/or sale of AFFF/Component Products containing PFAS and/or PFAS.

301. The CUFTA Defendants acted without receiving a reasonably equivalent value in exchange for the transfer or obligation, and E. I. Du Pont de Nemours and Company believed or reasonably should have believed that The Chemours Company would incur debts beyond The Chemours Company's ability to pay as they became due.

302. At all times relevant to this action, the claims, judgment and potential judgments against The Chemours Company potentially exceed The Chemours Company's ability to pay.

303. Pursuant to C.R.S. § 38-8-101, et seq. Plaintiffs seek avoidance of the transfer of E. I. Du Pont de Nemours and Company's liabilities for the claims brought in this Complaint and to the CUFTA Defendants liable for any damages or other remedies that may be awarded by the Court or jury under this Complaint.

304. Plaintiffs further seek all other rights and remedies that may be available to it under CUFTA, including prejudgment remedies as available under applicable law, as may be necessary to fully compensate Plaintiffs for the damages and injuries they have suffered as alleged in this Complaint.

CLAIM FOR PUNITIVE DAMAGES

305. Plaintiffs adopt, reallege, and incorporate the allegations in the preceding paragraphs above, and further allege the following:

306. Defendants engaged in willful, wanton, malicious, and or/reckless conduct that caused the foregoing damage upon Plaintiff, disregarding their protected rights.

307. Plaintiff asserts a claim for punitive damages under C.R.S. § 13-21-102.

308. Defendants' willful, wanton, malicious, and/or reckless conduct includes but is not limited to Defendants' failure to take all reasonable measures to ensure PFAS would not be released into the environment and inevitably cause the contamination of the municipal and private well drinking water supplies of the Communities given their proximity to PAFB.

309. Defendants have caused great harm to Plaintiffs, acting with implied malice and an outrageously conscious disregard for Plaintiffs' rights and safety, such that the imposition of punitive damages is warranted.

PRAYER FOR RELIEF

WHEREFORE, Plaintiffs demand judgment against Defendants, and each of them, jointly and severally, and request the following relief from the Court:

- a. A declaration that Defendants acted with negligence, gross negligence, and/or willful, wanton, and careless disregard for the health, safety of Plaintiffs;
- b. an order for an award of attorney fees and costs, as provided by law;

- c. pre-judgment and post-judgment interest as provided by law;
- d. equitable or injunctive relief;
- e. an order for all such other relief the Court deems just and proper;
- f. an order barring the transfer of DuPont's liabilities for the claims brought in this Complaint;
- g. an award of punitive damages in an amount sufficient to deter Defendants' similar wrongful conduct in the future;
- h. an award of consequential damages; and
- i. an order for all such other relief the Court deems just and proper.

DEMAND FOR JURY TRIAL

Plaintiffs demand a trial by jury of all issues so triable as a matter of right.

Dated: New York, New York
January 2, 2025

Respectfully submitted,

NAPOLI SHKOLNIK

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